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| 09/160,991      | 09/25/1998  | TZYH-CHYANG CHERNG   |                     | 6990             |

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WHITHAM, CURTIS & CHRISTOFFERSON, P.C.  
11491 SUNSET HILLS ROAD  
SUITE 340  
RESTON, VA 20190

EXAMINER

PAYER, HWEI SIU CHOU

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3724

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/160,991

Applicant(s)

CHERNG ET AL.

Examiner

Hwei-Siu C. Payer

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-16, 25, 26, 30, 31 and 38-44 is/are pending in the application.
- 4a) Of the above claim(s) 2, 5-9, 12, 25, 26, 31 and 38-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3, 4, 10, 11, 13-16 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **Detailed Action**

The amendment filed on 6-16-2005 and the response filed on 9-6-2005 have been entered.

### **Election by Original Presentation**

Newly submitted claims 2, 5-9, 12, 25, 26, 31 and 38-44 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The independent claim 38 as amended does not require simultaneously supplying powered metal into the heated area while heating the heated area.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 2, 5-9, 12, 25, 26, 31 and 38-44 have been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### **Claims Objection**

Claims 3, 4, 10, 11 and 30 are objected to because of the following informalities: The above claims depend from claim 38 which does not comply with MPEP 608.01(m). Specifically, each claim should begin with a capital letter and end with a period. Periods

should be not used elsewhere in the claims except for abbreviations. Correction is required.

**Claims Rejection - 35 U.S.C. 112, second paragraph**

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3, 4, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) In claim 3, line 3, "an area" is vague. An area of what?

(2) In claim 4, line 2, "powder" is vague. Does it refer to a power other than the on cited in its independent claim?

(3) In claim 10, lines 2 and 6, "said die body material" has no clear antecedent basis.

(4) In claim 10, lines 6 and 7, "said pattern" is incorrect. The phrase should read --said path- because the high grade material is to be introduced into the path of the die body to form a cutting blade that is formed in a pattern.

(5) In claim 11, line 2, "said shaping" has no antecedent basis.

**Claims Rejection - 35 U.S.C. 103(a)**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3, 4, 10, 13, 14, 16 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (U.S. Patent No. 3,952,179) in view of Maybon (U.S. Patent No. 5,580,472).

Baker discloses a method for manufacturing a cutting die (see Abstract), the cutting die including a cylindrical die body (10) and a cutting blade (14/22/23, see Figs.6-8) formed in a pattern (24/25, see column 4, lines 65-67) and integral with the die body (10) and extending outwardly from the die body (10).

Baker's cutting die is formed by depositing a blade material (12) having a hardness greater than that of the die body material (10) by use of a heat source, then continuing the depositing step along the entirety of the path, and finally machining (see Figs.4-8) the side surfaces of the deposited blade material (12) by electrical discharge machining (EDM, see column 1, lines 61-65 and column 3, lines 50-61) to form the cutting blade (14/22/23) substantially as claimed.

The mere differences between Baker and the claimed invention reside in the form of the blade material and the type of the heat source for depositing the blade material.

Maybon teaches the use of a laser beam (28) as a heat source for cladding. Specifically, Maybon teaches cladding a hard material onto a steel substrate (8) by heating an area (32) of the steel substrate (8) with a laser beam (28) and applying a cladding powder (comprising tungsten carbide, see column 4, lines 55-60) onto the heated area (see column 6, lines 16-18) while heating the area (32) to form a layer of deposit that is compositionally different and of greater hardness than the steel substrate (8). The cladding can be done with one single pass of the laser beam or a number of successive passes depending upon the thickness of the deposit desired (see column 6, lines 31-37). The cladding powder is fed through a feeder that is coaxial with a beam of the laser (see column 5, lines 63-65).

Therefore, it would have been obvious to one skilled in the art to modify Baker by using a well known heat source such as Maybon's laser beam for cladding a hard material of a powder form onto the substrate (10) for the advantage of a very fine microstructure and homogeneity of the clad layer as taught by Maybon.

With respect to claim 10, the claimed range for the hardness of the carbide-containing blade material is not patentably distinct over Baker as modified, since the blade material selected depends more upon the blade performance criteria and the die body parameters (as evidenced by Applicant's specification on page 15 thereof) than on any inventive concept.

3. Claims 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (U.S. Patent No. 3,952,179) and Maybon (U.S. Patent No. 5,580,472) as

applied to claims 10 and 13 above, and further in view of Cox et al. (U.S. Patent No. 5,417,132).

Baker as modified above shows the claimed method steps of forming a cutting die except it lacks the step of heat treating the blade.

Cox et al. teach heat treating blades by use of a laser beam (see Abstract) after machining the cutting blades.

It would have been obvious to one skilled in the art to further modify Baker by providing a heat treating step after the blade is machined to harden and prolong the life of the blade as taught by Cox et al.

## **Remarks**

Applicant's arguments with respect to the pending claim have been considered but are moot in view of the new ground(s) of rejection.

It is noted claims 13-16 of this instant application are the same claims that were appealed on 12-9-2002 before the Board of Patent Appeals and Interferences. A decision on appeal by the Board affirmed the examiner's rejecting of claims 13-16. Claims 13, 14 and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (U.S. Patent No. 3,952,179) in view of Maybon (U.S. Patent No. 5,580,472) while claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (U.S. Patent No. 3,952,179) in view of Maybon (U.S. Patent No. 5,580,472) and Cox et al. (U.S. Patent No. 5,417,132).

**Point of Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hwei-Siu C. Payer whose telephone number is 571-272-4511. The examiner can normally be reached on Monday through Friday, 7:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N. Shoap can be reached on 571-272-4514. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for official communications and 571-273-4511 for proposed amendments.

H Payer  
November 25, 2005

*H-S Payer*

Hwei-Siu Payer  
Primary Examiner